THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1472 SEPTEMBER 23, 1916. VOL. XXIX.

AND AFTER.

A consideration, in this column, of some of the possibilities of the future of the veterinary profession was cut short last week by limitations—both of space and time. Two of these, both of a positive character, were touched upon: another, of a different order, and possibly more immediate in effect, will be the condition of our ranks after the termination of war conditions. It is certain that there will be several hundred practitioners set free for private practice within a comparatively short period. How and where are these men to find immediate employment? Many of them are quite young men, and have yet had no opportunity to make for themselves a "position" in life. Some of them, possibly an unexpected proportion, may elect to remain in Army service, either in the Home or Indian Army: for the present day conditions of service are not unattractive, and the A.V.S. has ceased to be the refuge for the "slacker" that it was years ago. Even in those times men who would work could make a name—if not a position; though then, as now, the making was more often out of England than in it—the British veterinarian was seldom "a prophet in his own country."

Many other of the returning practitioners will have their old positions in civil life open to them. Many, again, will have lost their practices as a result of joining the A.V.C. Farmers in some districts gave expression to their feeling of personal resentment at being left without skilled advice—probably a fair proportion of these were the men who go to the veterinarian only as a last resource; but unless they have altered their views on the position, some of the former practitioners may find themselves supplanted.

What the conditions of practice may be is an open question. It is almost certain that there will be material alterations in some directions. If the virtuous resolutions regarding the importance of agriculture to the nation—a fact which very few of our legislators have ever properly grasped—come to fruition, we may expect to see the country practitioner taking the position which properly belongs to him—a skilled and valued adviser.

Before the war, we were not too well distributed: there were districts needing a veterinary surgeon and without one, while others were overstocked with them. It is distinctly undesirable that this state of things should be repeated.

This question deserves consideration and discussion.

THE COLOURING OF FOODS.

The various means by which food stuffs are adulterated are of considerable importance and form the subject of interesting study.

The colouring of foods is done with the object of deceiving purchasers, hence it is a form of adulteration. The public is very much to blame for this form of sophistication. For instance: there is an impression that milk or cheese is not up to standard unless it has a rich colour; as a result colouring matter is constantly used in their preparation for sale.

In time of war especially there is much food adulteration, and those responsible for the efficient administration of the Food and Drugs Acts have increased duties to undertake. Food inspectors in the course of their duties occasionally see the manufacture of sausages, polonies, and other products, and it is noteworthy that much reticence is kept when information is sought concerning the names of the various colouring agents used. Many of those substances have complex chemical compositions, and belong to the organic section of chemistry.

It seems to me that the course on chemistry as prescribed by the R.C.V.S. should include lectures and demonstrations on the dye stuffs that are used in food adulteration, and stains used in histological, pathological, and bacteriological examinations. A knowledge of the source, manufacture, and composition of such stains is of considerable importance, and time would be more profitably occupied acquiring knowledge about these stains than in committing "group tests" to memory for oral examinations.

The digestibility of foods is not aided by any of the common materials used for colouring, in fact it has been shown that the addition of copper sulphate to tinned and bottled green peas inhibits digestion. Many colours are derived from mineral sources: examples are Prussian blue, yellow ochre, chalk, and salts of copper. Most, however, are obtained from plants, such as currants, cherries, elderberries, and mulberries.

While all the colours of the rainbow are used, manufacturers are not content to stop there, but use many others of less beautiful tints.

The following summary of materials used may prove helpful to those who inspect food—and those who wish to colour medicines:—

VIOLET colouration is usually obtained by the use of archil, India wood, ultramarine violet, and cochineal (infused in lime water).

INDIGO is used to give this colour.

BLUE is obtained by the use of litmus, archil, ultramarine, Berlin or Prussian blue, and march violet. Methylene blue is used to colour solutions of potent drugs.

GREEN can be produced by the use of agents that yield blue and yellow. It is also produced by using spinach juice, Chinese green, ultramarine green, and chlorophyll. Ol. sambuci is much used for colouring oils and ointments.

YELLOW is a popular colour, obtained by using saffron, marigold, turmeric, yellow ochre, yellow wood, French berries, and quercitron.

ORANGE colour is obtained by using annatto (also known as annotto or onotto) obtained from the seeds of Bixa orelana, N.O. Bixaceae. Annatto occurs in commerce in the form of sticks or as a thin paste. According to the amount used various tints are obtained. It is used chiefly in colouring milk and cheese.

RED is produced by the use of such substances as cochineal, cherry juice, currant juice, mulberries, beet juice, kermes, infusion of red poppy, carthamic acid, artificial alazarin and purpurin, and cudbear. A beautiful red colour tincture is obtained by macerating Brazil wood (caesalpina brasiliensis, N.O. leguminosae). This wood is used also in the manufacture of red ink.

BLACK is commonly obtained by using Spanish juice or Chinese ink.

WHITE colouring is produced by the use of chalk, barium sulphate, flour, starch, alum, and tragacanth.

W. J. YOUNG, F.R.C.V.S., D.V.S.M. (VICT.)

WOUND OF LUNG: RECOVERY.

On August 28th, I was hurriedly called to see a a three-year-old cart colt belonging to Mr. Jones, of Ffos, about seven miles away, On arrival I found the patient standing in a loose box looking very dejected, and suffering from a large chest wound just at the junction of chest and abdomen. The wound was caused by the horse, when galloping, catching the "snick" or iron catch of a gate; the skin was severed, and on exploration I found the intercostal muscles badly torn, allowing at certain points a distinct view of the lung, which had been penetrated, as was proved by the fact that air escaped immediately the cotton wool (which my client had wisely put over the wound) was removed, for all the world like a ruptured bicycle air tube. My prognosis was very guarded, as I fully expected the horse to die. I did not probe the wound as I thought the less interference the better; washed the wound thoroughly with a tar preparation, stitched it up and left some sodii hyposulphite to be given in the food or drinking water.

On my next visit horse was completely off his appetite, temperature 104° F.: since then he has gradually improved and has now almost recovered.

ROBT. HENDERSON, M.R.C.V.S.

Tregaron, Cards.

ABSTRACTS FROM FOREIGN JOURNALS.

HYPOCHLOROUS ACID IN VETERINARY SURGERY.

A. Tedesco has been using free hypochlorous acid since the middle of January last in the surgical clinique of the Veterinary High School at Milan. He has used it in the form of a preparation called "clorosan," produced by the firm of Carlo Erba of Milan. Clorosan is sold in tablets of 12½ grammes each, or in powder form. Two powdered tablets, or 25 grammes of the powder, dissolved in a litre of water, make a solution containing 0.5 % of free hypochlorous acid. This is the strength used by the author.

To make the solution the clorosan is added to the water; and the mixture is kept for from two to three hours in a bottle, shaking it from time to time, and then filtering. In this way a very clear solution, emitting a slightly irritant odour, is obtained. The solution should be used in the first five or six days after its preparation, as, if kept longer, it loses its primary antiseptic power by reason of the facile decomposition of the hypochlorous acid.

The author has used the drug in a variety of cases, some only of which he indicates. They include several cartilaginous quittors, which were operated upon, several cases of canker of the horse's foot, one case of alveolar periostitis, which was treated by the evulsion of two molars and the formation of a counter opening by means of trepanning, one large sluggish wound of the median aspect of the metacarpus, one case of fistulous withers, and an operation for the amputation of the lower third of the forearm in a dog. In all these cases, treatment with clorosan gave favourable results. The solutions of continuity remained well cleansed and covered with granulations of a typical rosy colour, and tended to normal reparation of the loss of substance.

The method followed was to apply layers of gauze soaked with the solution upon the wounds, super-impose a layer of cotton, and bandage. This procedure was followed in lesions of the sole, in quittors, and in all the cases in which it was possible to apply a bandage. The dressing was renewed every seven or eight days, and in some cases the bandage was wetted every two days.

In open cavities or those with counter-openings, instead of the usual drainage tube, strips of gauze wetted with the solution were applied. These were renewed every two days, irrigating the wound with the solution at the same time. This was the method followed in the cases of fistulous withers and dental alveolitis.

In the cases in which considerable hæmorrhage was caused (such as the removal of the lateral cartilage, or stripping of the sole) the first application of the solution always answered well. At the renewal of the dressing, which took place forty-eight hours after the operation, the solution of continuity always appeared well cleansed and already transformed into a granulating wound.

From his observations, the author concludes that an 0.5% solution of hypochlorous acid acts upon raw tissues not only as an antiseptic, but also as a stimulant to neoformative granulations, enabling these to continue their process of reparation undisturbed. Considering the facile application and the comparatively low price of the drug, it may be warmly recommended for use in veterinary practice. Two obstacles may impede its use—viz., the time necessary to prepare the solution and the short duration of its antiseptic properties—but, except in certain cases of urgency, these are not insurmountable.—(*La Clinica Veterinaria.*)

Mastisol in Veterinary Practice.

Siegesmund has published an article upon this subject (*Zeitschr. für Veterinark.* 1914). The great majority of the numerous disinfectants which are now in use certainly possess an evident bactericidal action *in vitro* and in experiments, but do not fully attain their object in practice.

Hitherto disinfectants soluble in water have been much in vogue for the disinfection of wounds and the preparation of fields of operation. These, however, have the disadvantage of not penetrating sufficiently deeply into the pores, and into the recesses and crevices of the wounds. Of recent years, therefore attempts have been made to eliminate the use of water, as far as possible, in the preparation of the field of operation, replacing it with alcohol, benzine, ether, etc. Tincture of iodine, for instance, has shown itself very adapted to this purpose. It penetrates sufficiently deeply into the inter-cellular spaces of the epidermis and even into the superficial lymphatic spaces. By means of its contained alcohol the germs are fixed, and the specific action of the iodine kills them *in situ*, so that a good sterilisation of the skin is obtained. Tincture of iodine, however, has the slight disadvantage of sometimes causing irritation phenomena.

Mastisol, which was introduced by von Oettingen, acts in analogous manner, and by the simplicity and constancy of its action has found a large field of application in human and veterinary surgery. It is a solution in benzol of various resins, especially of mastische, with a small addition of ether and of a colouring substance. It is prepared by a Berlin chemical firm.

Von Oettingen's method is based on the conception that the infection of a wound has its starting-point in the germs which are found in it and upon the surrounding skin. By means of the customary washing the germs are mobilised, detached from their positions, and introduced with the washing liquid into the interior of the wound. Washing, therefore, is never useful; on the contrary, it often favours infection. The infection of wounds, according to von Oettingen, would be avoided by imprisoning and killing the micro-organisms upon the place where they are found. This conception is not new; but hitherto it has never been successfully put into practice because suitable disinfectants were lacking. Von Oettingen at first used a solution of mastiche in chloroform; but later he substituted benzol for chloroform because it evaporates more rapidly. Mastisol has a strong power of penetration. It covers the surface of the skin and all the crevices and recesses of the wound with a fine layer of resin in which the germs remain fixed, lose their mobility, and, as the resin does not give passage to the humidity necessary to their existence, they are rapidly killed. Mastisol also fixes the bandage applied over it, and renders its displacement impossible.

Treatment with mastisol is carried out as follows. Hæmorrhage is arrested; and blood-clots, foreign bodies, and dirt are removed with forceps. The wound is quickly cleaned with a cotton rag, and mastisol is applied with a brush upon the margin of the wound and into its interior. After waiting a short time for the preparation to evaporate, sterile gauze is applied with light pressure.

The results obtained hitherto with mastisol in human and veterinary surgery are excellent. Siegesmund, in his capacity of military veterinary surgeon, especially praises the merits of mastisol in war time. It is of the greatest utility in fixing bandages, and in all kinds of lacerated contused wounds, wounds from the penetration of foreign bodies, etc. Its use permits a great saving in bandages and means of disinfection, and renders water or other liquid for washing unnecessary, which is an immense advantage in military practice. The firm preparing it also prepare a mastisol expressly for veterinary use, which has been very largely used everywhere.—(*La Clinica Veterinaria*).

Salvarsan in the Treatment of Glanders, and the Formation of Antibodies in Equine Blood.

Wiessner and Lange reported some experiments they have made upon this subject (*Deutsche Tier. Woch.*). They experimented upon eight horses; and, to eliminate the risks incidental to a too advanced stage of the disease, they used animals which did not present any apparent symptom of glanders, but in which examination caused a supposition of its existence. The blood of all the horses was studied before and after the injection of salvarsan, to determine at the same time the influence of the drug upon the formation of antibodies in the blood. The horses were killed some weeks after, and the pathological alterations of their organs were studied.

Post-mortem, it was found that two of the horses were completely healthy, while five showed recent lesions, and one showed glanders lesions which were rather old, and had the character of cured lesions.

As the two healthy horses did not show any glanders lesions, not even cured ones, the authors believe that they had never been affected with glanders, and this excludes any curative action of the drug in their case. In five other horses the salvarsan had not had any influence, as the lesions had the ordinary evolution, even after the treatment. In one case alone the disease was arrested after the injection, but probably not by the action of the drug, as it is known that the lesions may become latent without the animals being cured. From all these observations the authors conclude

that it is impossible to cure glanders by means of salvarsan or neo-salvarsan.

The study of the blood before and after the injection of the drug, with the object of determining the influence of salvarsan upon the formation of anti-bodies, has given a result which is still doubtful. The authors have always adopted the agglutination method; and, in all the glandered horses, they have observed a diminution of the anti-bodies after the injection and an augmentation some time afterwards. It is therefore probable that the injection of salvarsan or of neo-salvarsan may enable it to be determined whether a horse is glandered or not.

The authors advise the continuance of similar researches.—(*La Clinica Veterinaria*).

The influence of the Colour of Horses upon recovery in Mange.

Masur recently published a note upon this subject (*Berliner Tier. Woch.*) During the treatment of numerous cases of equine mange, he has observed that the colour of the horses is not without influence upon the cure of the disease.

The cure is most rapid and complete in black horses, in which often the formation of crusts is not even observed, and in most cases simple rubbing with one of the usual remedies is sufficient treatment.

In bay horses a longer time is required.

In sorrel horses it is almost always necessary to repeat the treatment.

In dun horses, especially in those of uniform colour, repeated treatment does not always produce recovery; and other veterinarians confirm this observation.

In the author's experience, the choice of the parasiticide had no influence upon this phenomenon of colour-influence.

The author suggests a possible explanation of the phenomenon—he thinks that the acari may penetrate more easily and more deeply into skin that does not contain pigment, and thus are largely protected from the action of the medicaments applied. In other words, the presence of the larger proportion of pigment in the skin is a protection against the attacks of the parasite.—(*La Clinica Veterinaria*).

[Many English clinicians have a wide experience of equine mange. How does this accord with their observations?—*Transl.*] W. R. C.

Report of the Veterinary Bacteriologist, Southern Rhodesia, for the Year 1915.

The routine work of the laboratory has included the examination of some 2500 smears and specimens forwarded by members of the Veterinary Department and laymen throughout the country.

Contagious Abortion. A considerable number of samples of blood taken from bovine animals suspected to be infected with contagious abortion have been received for the application of the agglutination test. Owing to the difficulties associated with the collection of blood under field conditions, many of the samples arrived at the laboratory too decomposed for the application of the test, and experiments were undertaken with a view to overcoming this difficulty. A method whereby blood can be collected in pipettes containing a certain quantity of preservative was finally adopted, and proved highly satisfactory in practice and so simple in application that the samples can be taken by stock owners themselves. This should render possible the early detection of outbreaks, and thus contribute to the suppression and elimination of this insidious disease. Large quantities of vaccine have been prepared for the treatment of aborting herds, but it is too early to express an opinion as to the results obtained. To avoid the dangers associated with inoculation with living organisms, it has been thought wise to make use of dead vaccine, although experiments conducted by the Abortion Committee appointed by the Board of Agriculture, Great Britain, indicate that the results to be expected from such are not as satisfactory as when the living organism is used. Comparative tests conducted here during the year have yielded equal results in animals whether inoculated with living or dead cultures.

Research Work. It is a matter for regret that, owing to the cost of suitable animals for experiments, it has been impossible to carry out the programme for research laid down when drafting the estimates for the year. Unfortunately animals bred in the country are not, as a rule, suitable for the experiments in connection with local diseases, owing to the possibility of their having been already exposed to natural infection. This disadvantage, and the fact that the usual small laboratory animals are not susceptible to many of the diseases under investigation, render research work somewhat expensive; but part of the original expenditure may often be recovered by the sale of immunised animals, so that the cost of such work is not as great as might at first sight appear.

Horse-sickness. Our previous efforts to obtain a method of protecting horses against this very serious disease having met with some degree of success, it was intended during the present year to carry on the work on a somewhat larger scale during those months when the disease does not naturally prevail; but for several reasons the animals could not be obtained, and little progress would have been made had not the Commandant General placed at our disposal, on generous terms, horses recently imported as remounts for the Police. It is not, however, altogether satisfactory to carry out experiments with such valuable animals, as one hesitates to take those risks which are sometimes necessary for the purposes of research.

The following is a record of the results obtained with these horses, and a few others purchased or provided by private owners, as at the 31st December of this year:—

Animals purchased	...	5
Private animals	...	4
Animals supplied by Police	...	18
	Inoculated	27
Unsuitable	2	
Died	4	
Immunised		21

One great difficulty in conveying immunity to equines against horse-sickness lies in the fact that in some obscure way strains of virus differ, so that immunity to one may not necessarily protect an animal against infection from another. It remains to be seen, therefore, to what extent animals immunised at this laboratory will withstand infection when exposed to the disease under natural conditions. To put the matter to the test, the treated Police horses are being distributed in various districts throughout the country, and a careful record is being kept of them.

In my report of last year it was stated that of animals previously inoculated ten were alive, although exposed in dangerous localities; and of these eight are known to have survived the past horse-sickness season, which was of exceptional severity. One is reported to have died of horse-sickness and the other cannot be traced.

The Plasmoses of Cattle. The losses due to redwater and gall-sickness have continued seriously to handicap the pastoral industries. It has previously been pointed out that the ideal method of dealing with these diseases would be to supplement regular dipping by a simple and safe method of inoculation. To obtain such a method, a series of experiments were conducted in 1914 on twelve Shorthorn heifers imported from Great Britain for the purpose. Six of these animals were inoculated with a special virus, and suffered from mild re-actions, from which they recovered.

During the present year they were exposed to gross natural tick-infection, which they successfully resisted. The experiments were continued with the balance of the animals with equal success, and it was felt that after a few further tests the system might be applied with a fair degree of safety to imported animals, which are required in considerable numbers for the grading up of our local stock.

Once again, the difficulty of obtaining suitable animals for the test has handicapped the work, which has made little or no progress during the year. An attempt was made to continue the experiment with heifers imported from Cape Colony, but the results obtained were unreliable, and in spite of the considerable time and work involved, no deductions applicable to stock imported from overseas could be drawn from them.

During the past year great advance has been made in the dipping campaign, and the principle of the short-interval dipping of stock has been accepted in many parts of the country. The eradication of ticks by this system will eventually create large areas free from tick-borne diseases, and a race of susceptible animals bred upon them. On the removal of such animals to tick-fested veld, they will be subject to the disease in an acute form. Experiments have, therefore, been continued with a view to finding a method of rendering such animals immune, and free from the disadvantages associated with the natural infection. It is confidently believed this may now be accomplished by the inoculation of young animals with a suitable virus at a time when they can best support the mild form of the diseases thus conveyed.

The accommodation at the present station, which, as pointed out in previous reports, is quite inadequate, has not been improved; but the matter is now under careful consideration, and it is hoped that during the coming year some advance will be made in this respect.

Staff. The Staff consists of:—Ll. E. W. Bevan, M.R.C.V.S., Government Veterinary Bacteriologist, a lady clerk and a stockman. In order to economise, certain alterations were made in the constitution of the staff during the year. Research being limited, owing to the lack of suitable experimental animals, it was felt that the work of the laboratory did not justify the retention of the lay assistant, who was temporarily seconded as Cattle Inspector, the whole of the technical work of the laboratory being performed by the Bacteriologist in his absence.

Ll. E. W. Bevan,
Government Veterinary Bacteriologist.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Out-breaks.	Slaugh-tered. *
IRELAND. Week ended **Sept. 9**	...	...	...	...	...	...	Outbreaks 2		10	4	52
Corresponding Week in 1915 ...	...	...	...	...	...	...	2		9	5	32
Corresponding Week in 1914 ...	...	...	...	...	...	...	1		5	1	11
Corresponding Week in 1913 ...	...	...	...	...	...	...	1		7	...	4
Total for 37 weeks, 1916 ...	3	7	...	...	...	...	54		302	234	1457
Corresponding period in 1915 ...	1	1	...	...	1	3	56		305	186	1037
Corresponding period in 1914 ...	1	1	76	957	...	...	65		397	160	836
Corresponding period in 1913 ...	...	...	...	...	...	...	102		383	113	693

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 11, 1916.
Note.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection

On re-dressing septic Wounds.

The enormous healing power which is inherent in the herbivora is well understood amongst veterinarians, and renders them, in a sense, indifferent to refinements of treatment. In their smaller patients matters are different, and a good practitioner is as keen as the human surgeon in keeping to the front in both the theory and practice of wound treatment. The following note, taken from an article in *The Lancet*, by Mr. W. B. Davy, M.R.C.S. ENG., L.R.C.P. LOND., Capt. R.A.M.C. (T.), on "The dressing of septic gunshot wounds," emphasises what appears to be a fresh line of treatment in human surgery. Successful cases are quoted in which wounds were not re-dressed for periods of 11, 14, 16, 21 days.

"Looking back on a year's work at a base hospital, where there has been the opportunity of observing wounded patients and the progress of wounds from 48 hours to an indefinite period after their infliction, I am deeply impressed with the fact that is forcing itself upon me, that from a therapeutic point of view the dressing, or rather the re-dressing, of a septic wound is as unnecessary as, and much more harmful than, the re-dressing of a wound that is expected to heal by first intention. I have come to recognise that a re-dressing is of diagnostic value only, and that it is the last diagnostic test that should be applied. A re-dressing should be looked upon as an operation only to be undertaken after careful thought, and an unnecessary dressing

should be regarded with as much regret as an unnecessary operation. Most re-dressings are entirely unnecessary, and it is the better recognition of this that is my plea.

Where drainage has been established in a septic wound it matters not with what antiseptic the surfaces of the wound are dressed; while drainage is maintained the wound will improve, and the corollary is also true. Where drainage is not maintained it is useless to try to improve matters by re-dressing; it is not a dressing that is needed, but an operation. The time factor in re-dressing is of no importance whatever; suppurating wounds may advantageously be left to stew in their own juices.

In this memorandum it should be understood that by a dressing is meant the removing and renewal of a dressing in direct contact with the wound surface. Pus and other discharges passing through this 'next to the wound dressing' need to be absorbed for reasons of cleanliness and comfort. The absorbent should be renewed as frequently as may be necessary, the 'next to wound dressing' being left in position while the clean absorbent is placed over it. Thus is caused the minimum of discomfort to the patient and the healing process is not retarded at all by interference.

A septic wound progressing satisfactorily excretes profusely, and this excretion is entirely non-toxic to the patient; it is, as it were, outside the patient. While the wound is kept free from pus retention and from fresh abrasions such as are perforce inflicted when an adherent dressing is changed, no toxic effects will be produced even though evil-smelling pus be bathing the wound in its deepest recesses. I would go further and suggest that no application has been devised which promotes so rapid and prolific a growth of healthy granulations leading to well-organised tissue as laudable pus.

It is interesting to note that the smell, worse during the first ten days, often practically disappears during the next ten, until only a faint mousy odour remains. 'Eupad' liberally sprinkled between the layers of absorbent packing is of considerable use in reducing this smell: it is to be regarded, not as an essential of treatment, but as a concession to the olfactory senses which is appreciated alike by patient and attendants.

I append brief notes of cases of septic wounds in which the dressings were not touched for various periods. The method of dressing adopted was as follows—*e.g.*, the dressing of a septic gunshot wound of the thigh, 'through and through' after operation. Salt tablets disinfected in tincture of iodine are placed at intervals of about 1 inch on a strip of four-layer gauze 1½ inches wide; this is twisted into a necklace. The utmost care is then taken to pack firmly this necklace into every hole and corner of the wound. Over this is placed a pad of eight-layer gauze; this may be fixed to the skin advantageously by adhesive strapping in order that in the time to come the 'next to the wound' dressing may be left undisturbed. Over this is placed cotton-wool maintained in position by firm bandaging, and the limb is supported in a splint to ensure rest.

The objects in view are: (1) to bring into contact with the wound surfaces a strong saline solution; (2) temporarily to keep apart the wound surfaces, creating as large an area as possible for tissue drainage; (3) to obtain a condition of local rest; the internal packing of salt and gauze, in conjunction with the firm external bandaging acting as a local splint. As the salt dissolves the tissues tend to resume their normal position, leaving a gauze drain to every part of the wound. (4) For the gauze to maintain a track along which the exudates may find their way to the surface.

Subsequently as the swelling of the limb subsides and the salt tablets dissolve the bandage should be tightened, opportunity being given for this when the soaked absorbent is renewed. When it is necessary for investigation or for further treatment to remove the dressing, the gauze drain soaked in slimy pus will harmlessly and painlessly slip out of the wound. For the re-dressing of a granulating wound it is merely necessary to lead in a thin drain of gauze to the innermost parts and to cover with a pad of gauze and absorbent.

In observing serious cases treated on these lines, one is as much struck by the marked improvement in the patient as by the rapid improvement in the wound itself. That this may be due to the elimination of the physical and mental strain involved in frequent dressing has been suggested to me by patients who volunteered the remark that they had had no chance to 'pick up' between one dressing and the next. This factor of the wear and tear of the patient's energies involved in a big dressing is a point, too, to be considered. If the results obtained by infrequent dressings are placed even at so low an estimate as only to equal the results obtained by the more ordinary methods, preference should be given to the method which diminishes the sufferings of the patient."

Supplementary Feeding Stuffs.

Sesame cake is made in extracting the oil from sesame seed, which is also known as til, till, teel, gingelly, simsim, and benniseed. The oil is used as a substitute for olive oil and also for the making of margarine, but the trade has largely been in German hands. The exports from India in 1913 amounted to 112,000 tons. The cake has occasionally been seen on the British market, and those farmers who have used it have found it very similar in it properties to decorticated cotton. Analysis shows about 39 per cent. of albuminoids, 9 or 10 per cent. of oil, and 26 per cent. of carbohydrates, and judging from the small amount of experience available, it will probably form a valuable substitute for decorticated cotton and soya cakes, neither of which are largely the produce of British possessions.

It should prove valuable for use with roots and straw owing to the high percentage of albuminoids it contains.

Dari is a product of the Sudan and seems likely to come on the British market as a result of the war. It is a useful carbohydrate food, suitable for pigs, horses, and poultry as a substitute for maize. Large quantities this grain are produced in the Sudan and other portions of the British Egyptian territories, and the quantity produced is capable of almost indefinite expansion. Analysis shows it to contain about 13 per cent. of albuminoids, 3 1-3 per cent. of oil, 72 per cent. of carbohydrates, and only about 1 per cent. of woody fibre. The grains most nearly approaching it in composition are maize, barley and wheat, but the dari contains rather more albuminoid even than the wheat, and considerably more than either maize or barley. This larger percentage of albuminoid—13 per cent., as compared with 9 in barley and maize—will make it a much more valuable food for stock, particularly for pigs, so that if it can be imported at favourable prices it should be readily bought by British farmers. Dari has been used in small quantity in this country for some years as a food for poultry, but with largely increased importations from our own possessions there should be a greatly extended field for its use. At reasonable prices it will be a most valuable addition to our pig and poultry foods, and it would also be a valuable substitute for maize in the feeding of cattle and horses.

Cheap feeding stuffs are a large factor in the profitable production of livestock, and a demand for these newer foods will do much to keep down the prices of the older feeding stuffs and to attract importations into the country.

THE GLASGOW VETERINARY COLLEGE (Incorporated).

The Prospectus of Classes, Session 1916-17, has been issued as a handbook of 76 pages, and contains all the usual information necessary for intending students, including lists of Board of Governors and of Patrons and Donors. Amongst the latter is "The Carnegie Trust," and in connection is given :—

REGULATIONS FOR ASSISTANCE IN THE PAYMENT OF CLASS FEES.

I. *Age.*—Applicants must be over sixteen years of age.

II. *Nationality.*—Applicants must be of Scottish birth or extraction, or must have given two years attendance after the age of fourteen at a school or institution under inspection of the Scotch Education Department.

[The Executive Committee at present admit the claim of Scottish extraction in the case of applicants who can give evidence of Scottish birth of a parent or grandparent.]

III. *Preliminary Education.*—Applicants qualified under the two previous regulations who have been pupils of schools under the Scotch Education Department will be eligible for assistance in the payment of class fees if they have obtained the Leaving Certificate of the Department, provided that it bears evidence of such preliminary education as is required by the Universities for their respective graduating curricula, or, if it does not, provided that it has been supplemented by such passes either in the Scottish Universities Preliminary or other Examination as will satisfy the above requirement of the Universities.

Where applicants have not been pupils of schools under the Scotch Education Department, or where other good ground for not having obtained the Leaving Certificate can be shown, the Executive Committee have power to accept instead what they deem equivalent evidence of attainments in the shape of passes gained either in the Scottish Universities Preliminary or other Examination, provided that no applicant will be considered eligible who has to pass any further Preliminary Examination before completing his graduating curriculum.

Further particulars may be learned on application at the College, or to the Secretary, Carnegie Trust.

There is also a list of Veterinary appointments at home and abroad filled by former students of the College; also a Roll of Honour containing, so far as known, the names and ranks of qualified graduates, students, lecturers, and employees of the College who are serving in His Majesty's Forces in defence of the Empire, both of which contain many familiar names.

Sale of cast Army horses in Egypt.

To the Editor of *The Daily Mail.*

Sir,—Would it be possible to insert the enclosed letter I have received from Alexandria? Judging by the letters I have received, running into hundreds, the public feel deeply on the subject.

The Treasury say that they would lose too heavily if sales were stopped and cast horses were put to a painless death. They would lose, I know, but what did the suppression of the Slave Trade cost this nation, and the practical cessation of the opium traffic? We thought it was right and we cut the loss. Does the suffering of dumb animals not count as a crime, if it can be stopped?

M. LOCKWOOD, Colonel, M.P.

Bishop's Hall, Romford.

The letter from Alexandria, signed "H. E. Bell," says: "I have been told by Army men and others that unless £5 is forthcoming the cast troop horse is shot, but that at anything over that sum the poor beast is cheerfully handed over to any European, Levantine, or native who sees a chance of screwing a few more months work out of him. What of those harnessed to the Cairo and Alexandria cabs, numbers of which have been put straight into harness made for Arab ponies of usually under fourteen hands? Add the world-famed brutality of the Cairo and Alexandria Jehu, a diet composed mainly of chaff with a modicum of barley, the habit of the Egyptian driver of trusting almost entirely to the whip to direct his horses, supplemented by continual jerking of the reins, and the plight of these poor beasts can be imagined.

"Other cast-offs are sold to farmers and others, who employ them for such heart-breaking tasks as turning water-wheels and pulling the native threshing machine. A well-known agriculturist, who has himself bought several mares for breeding purposes, told me that most of these English horses would scarcely survive a month in the hands of their new native masters."

Horse-Breeding and Racing.

The hon. secretary of the Association of Racehorse Owners, Breeders, and Trainers states that the recent canvass amongst owners, breeder, and trainers, in order to ascertain the effect of the veto upon racing, has revealed an appalling state of affairs, and unless relief comes quickly in the form of more racing the thoroughbred breeding industry in this country is threatened with extinction. From the details received from sixty-nine trainers not located at Newmarket it appears that they had charge between them before the war of some 1382 horses. They now have 354, and if racing is not resuming away from Newmarket very shortly this number will be reduced to 54.

ARMY VETERINARY SERVICE.

Extracts from *London Gazette,*

WAR OFFICE, WHITEHALL, Sept. 14.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Qr.-Mr. and hon. Lieut. C. W. Cook is dismissed the Service by sentence of a General Court-Martial (July 3).

Sept. 15.

To be temp. Lieut:—M. A. Murphy (Sept. 1).

Sept. 18.

Temp. Lieut. to be temp. Capt.:—W. F. Macdougall (Aug. 31.

Sept. 19.

To be temp. Lieut.:—J. B. Russell (Sept. 5).

Sept. 21.

Temp. Lieuts. to be temp. Capts.:—V. R. de Boissiere (Sept. 6); W. F. Wright (Sept. 9).

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Sept. 15.

Capt. (temp. Maj.) J. E. L. Still relinquishes his temp. rank on alteration of posting (Aug. 24).

Lieuts. to be temp. Capts;—D. G. McLeod (March 6); H. Gibson (May 28); C. E. Norgate (June 2).

Sept. 19.

Capt. (temp. Major) W. Stothert relinquishes his temp. rank on alteration in posting (Sept. 9).

CANADIAN A.V.C.

Sept. 20.

Lieut. to be temp. Capt.:—W. M. Parsons (June 23).

The following casualties are reported:—

DIED—Sgt. O. A. Barr, 5687.
Far. J. R. Robinson, 4822.
Pte. T. Kirkham, 18987.
Pte. E. F. Campbell, 840.

The A.V.C. Comforts Fund.

Dear Sir,—I have much pleasure in forwarding list as received from Mrs. Rutherford, showing the names of subscribers who, through her, have most kindly sent this generous sum for benefit of the A.V.C. Comforts Fund. I have written to Mrs. Rutherford, but I hope all those who have subscribed to her collection will accept warm thanks.—Yours truly,

ADELAIDE M. MOORE.

Strathyre, Parsifal Road,
Hampstead, N.W.

Collected by Mrs. C. Rutherford.

F. Lindsay, Capt. A.V.C.	£2	2	0
P. W. Creagh	1	1	0
W. C. Patrick		10	0
W. A. Potts, Capt. A.V.C.	1	1	0
R. B. Freeman	1	0	0
J. Hughes	1	0	0
E. Wallis Hoare		10	0
J. T. Boase, Kingstown		10	6
U. S. Wilkinson	1	1	0
B. H. Mellon, Capt. A.V.C.	1	1	0
C. J. Clibborn, Capt. A.V.C.	1	1	0
L. J. Kelly	1	0	0
J. F. Healy	1	1	0
J. J. Cosgrove		10	6
John Barry	1	1	0
J. J. Ross, Belfast	1	1	0
A. Baker, Bansha		10	0
W. B. Cronyn, Capt. A.V.C.		10	6
James Purdy, Capt A.V.C.	1	0	0
T. H. Griffin	2	0	0
G. H. S. Jarratt		10	6
Mrs. Ryan	1	0	0
R. Bickerton, Capt. A.V.C.	1	0	0
Mrs. Coley	1	1	0
F. W. Hart	1	0	0
W. Scott, Capt. A.V.C.	1	1	0
H. W. Dawes, Lieut. A.V.C.		10	6
A. Dobbyn		10	0
P. D. Reavy, Capt. A.V.C.		10	6
per Capt. J. J. Purdy, Corpls. and men A.V.C., The Curragh	5	0	0
per Capt. J. Purdy, Sergeants' Mess, The Curragh	2	10	0
per Maj. Henry, employees at Remount Depot, The Curragh	3	17	6
per C. D. Evans, employees at Remount Depot, Ballsbridge	2	10	0
per Capt. Dixson, employees at Remnt. Depot, Balmoral, Belfast	2	5	0
Capt. Beamish, Remount Depot, Lusk	1	0	0
per Capt. Wildman, employees, Remnt. Depot, Island Bridge Bks., Dublin	1	14	6
	£45	12	0

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1916 to the College funds:—

S. G. Chellew, Kirton, Redruth	£5	5	0
J. Hughes, Llanfair, nr. Welshpool	1	1	0
Thos. Runciman, jun., Ely (for 1917)	1	1	0
Previously acknowledged	767	6	6
	£774	13	6

OBITUARY.

A. C. STEWART, M.R.C.V.S., Cardiff.
Graduated, Glas: July, 1884.

A general expression of sorrow was heard on all hands at Cardiff on Tuesday when it became known that Councillor A. C. Stewart, the well-known veterinary surgeon, and popular representative of the Riverside Ward on the City Council, had died suddenly at his residence in Neville Street.

Mr. Stewart was 52 years of age, and a successful veterinary practitioner; he had not been quite well for some time, but so little did the family anticipate any serious result that Mrs. Stewart was in Scotland with the youngest child at the time of his demise. There are five other children—the eldest son, Lieut. Andrew M. Stewart, Royal Navy; Capt. J. H. Stewart, Veterinary Corps, and Mr. Hugh Stewart, who served a year in the Royal Engineers, and was afterwards drafted into a munition works, and the two elder daughters, Miss Mary S. Stewart and Miss Helen M. Stewart.

When his fellow members on the Corporation arrived at the City Hall in the afternoon for meetings of the committees, profound regret at so untimely a close to such a useful career in municipal work was the prevailing note. Councillor Stewart was admired by his colleagues for his sound judgment and commonsense on all questions affecting the Council's administration: and as a member of the finance, health, watch, property and markets, public works, small holdings and allotments committees he was a valuable public representative. His knowledge of horses and agriculture was particularly useful, and on Monday, when at the City Council meeting, he had been delegated to do some special committee work in those directions. He was elected a Councillor for the Riverside Ward in February, 1911, at a bye-election, in which he was returned unopposed. In politics he was an ardent Unionist, and a most regular attendant at the meetings of the Cardiff Conservative Association.

A vote of condolence with the family was proposed by Alderman Sir John Courtis, chairman of the electric light and tramways committee, and this was seconded by Alderman William Roberts, chairman of the public works committee, and carried in silence.—*Western Mail.*

The late Sir Lauder Brunton, Bt., M.D.

The death of Sir Thomas Lauder Brunton, Bt., M.D., LL.D., F.R.S., took place at his residence, 1 De Walden Court, New Cavendish Street, on Saturday, 16th inst., in his 73rd year.

Thomas Lauder Brunton was born in 1844, in Roxburghshire, and was educated at Edinburgh, where he graduated M.B. in 1866, B.SC. in 1867, M.D. in 1868, and D.SC. in 1870; having in the meantime studied in Paris,

Vienna, Berlin, and Leipzig. Settling in London he became a member of the Royal College of Physicians in 1870, and a Fellow in 1876; and was appointed Assistant Physician to St. Bartholomew's Hospital, with which he had ever since been connected as physician and lecturer.

To his early work is due, in no small measure, the recognition of pharmacology as a subject of scientific importance. Brunton saw that drugs might be used as touchstones of physical states and so might contribute, being administered, to our knowledge of the functions of the organism. Thus he connected clinical medicine with the medicine of the laboratory. His enormous consulting practice latterly absorbed all his energies, but it was given to him to know that a host of younger men had followed in his footsteps.

In 1886 he was appointed a member of the commission to report upon Pasteur's system for the treatment of hydrophobia, and was afterwards associated with many committees of inquiry on similar subjects.

In conjunction with Sir Joseph Fayrer, he investigated the action of snake poison, on which he made a valuable report.

In 1889, in response to an invitation from the Nizam, given under the advice of Surgeon-General Lawrie, he went to Haidarabad to conduct experiments for the elucidation of the occasionally fatal results of chloroform inhalation. Haidarabad was chosen as the most appropriate place for the purpose on account of the number of ownerless pariah dogs available for the experiments, as well as the liberality of the Nizam in providing facilities and accommodation. On Brunton's return the details of his experiments and the conclusions which he founded upon them were published, and led to much discussion. He received various honours and distinctions, including a knighthood in 1890 and a baronetcy in 1908.

Sir Lauder Brunton identified himself with endeavours to excite popular interest in the better management of children, with a view to obviate physical degeneracy, and was a frequent speaker on such topics.

REVIEW.

VETERINARY THERAPEUTICS. A Guide to the Treatment of Disease in the Domestic Animals. By E. WALLIS HOARE, F.R.C.V.S. Third Edition. Pp. xxiv+943. Price 18/- net. London: Baillière, Tindall, & Cox, 8 Henrietta Street, Covent Garden. 1916.

It is ten years since the last edition of this work appeared; and considerable changes in therapeutics have taken place since that time. To meet these the present volume has been re-written. Some matter has been deleted; a larger quantity of new material has been added; and the net result is that the work has been enlarged by some 160 pages as well as considerably altered. At the same time, its general scope and plan remain much the same as in 1906.

As before, the book is divided into three sections. The first deals with diagnosis, general symptomatology, the management and nursing of sick animals, the prescribing and administration of medicines, and veterinary pharmacy. The second is devoted to materia medica, including vaccine and serum therapy; and the third to the special therapeutics of the diseases most commonly encountered in practice. This therapeutical section is almost exclusively medical, but not quite so. It contains one chapter of general considerations upon the treatment of wounds, with some detailed reference to the hypochlorite treatment, and another of 24 pages upon some minor operative procedures. The latter is well and concisely written; and as, among other subjects, it deals with the passage of the probang and the stomach tube (including the equine ones) and the catheterisation of all our domestic animals, it is likely to be especially useful to many practitioners. As in the last edition, this section contains a very large number of prescriptions—some very well known, but altogether forming a useful collection for almost any class of practice.

Four other veterinarians—Messrs. H. Begg, H. Gray, G. Mayall, and W. M. Scott—have given the author their collaboration, the precise nature of which is indicated in the preface. The result may be briefly summarised. On the whole, the book will be distinctly more valuable to the practitioner than its predecessor of ten years ago. It embraces a greater variety of subject-matter; and all the new subjects have been well chosen with reference to the everyday needs of the clinician. Not infrequently we find some diffuseness and superfluous verbiage in the text; and it is a pity that this should mark some portions of the book while others are quite free from it. But, taken all round, the work is a good summary of veterinary therapeutics as its art and science stand to-day. There are few clinicians who will not find it useful for reference; and there are many to whom it will be a very valuable guide.

W. R. C.

A.V.C. Sports at Lathom.

There was quite a bright gathering—with khaki in the ascendant—on Saturday afternoon, Sept. 9th, on the occasion of military sports in connection with the No. 7 Reserve Veterinary Hospital, Lathom (close to the Remount Depot, Lathom Park), where Major J. W. Brittlebank is the presiding genius. Thanks to the untiring efforts of Captain Warburton, who acted as hon. secretary, and to others of Major Brittlebank's excellent staff, quite an ambitious programme had been prepared, and the large crowd which foregathered in the spacious field adjoining Stand Farm, spent a thoroughly enjoyable afternoon, the fine weather of course greatly adding to the afternoon's sport.

The foot events commenced at half-past two. The 100 yards open was a clinking final, the spoils going to private Jolley, of the Scarisbrick A.V.C., and his comrades did not forget it. Private Chattwood, the Scarisbrick A.V.C. flier, was badly left at the start in the run off. He, however, won the quarter in great style, and everyone felt disappointed on hearing that he had been disqualified for "pushing."

Lieut. Reynolds won the officers' flat cleverly, and S.S. Grey the non-commissioned race, both distances being 100 yards. The humorous element was well provided for with the sack race, the spar fight, tilting the bucket, and the obstacle race.

The mounted events followed, in another ring, and these naturally produced more excitement. In the officers' jumping competition, after a very close contest, the honours were awarded to Captain Hopkin, of the A.V.C., Scarisbrick, whose chestnut pony leaped beautifully. Captain Warburton was second, on a dashing brown charger, which leaped the obstacles with great fire, and little divided the pair at the finish. Lieut. O'Brien was third with a smart bay mare. The Scarisbrick A.V.C. team easily upheld their unbeaten record in wrestling on horseback, vanquishing D Squadron, A.S.C., in the semi-final, and doing the same for K Squadron in the final. The musical chairs, always an attractive mounted event, was keenly followed, whilst all the other contests also kept the interest well maintained.

By Major Brittlebank's invitation the wounded soldiers from the military hospitals at Ormskirk and Town Green were honoured guests, and they appeared to enjoy the proceedings immensely.

Through the kindness of Mr. J. P. Berry, the presi-

dent, of "Highcliffe," Ormskirk, the Skelmersdale Old Prize Band was in attendance, and was thoroughly appreciated.

The officials were:—Judges: Col. Hobson, D.S.O., Major Eaden, Major Crosleigh, Major Eyre, Major Willett, Major Brogan, Major Wallisiswright, Captain Charters, Captain Bulkeley, and Lieut. Viscount Madden; starters: Lieut. Ferguson and Lieut. Springate; stewards: Major Brittlebank, Captain Rawlins, Captain Robson, Captain Pollock, Captain Warburton, Lieut. Whitehead, Lieut. Reynolds, Lieut. O'Brien, Lieut. Ewarts, Lieut. Robinson and Lieut. Rose; field stewards: R.S.S. Curban, Sgt.-Major Panther, Staff-Sgt.-Major Brampton, and Sgt. Lewis.

The Committee offer their sincere thanks to the following ladies and gentlemen, who kindly gave prizes:—Mrs. Brittlebank, Lieut.-Col. Meredith, Capt. Hopkin, A.V.C., Mr. H. Hewitson, Mr. H. Hewitson, jun., Mr. F. A. Ball, Mr. J. Sumner, Mr. J. J. Balmforth, Mr. W. Martland, Mr. J. Sharp, Mr. E. Streatfield, Mr. H. Sumner, Mr. J. Swales, and Messrs. R. Taylor & Co.

At the close of the sports Mrs. Brittlebank, wife of Major Brittlebank, presented the prizes, which formed a handsome collection.

Major Brittlebank afterwards thanked Captain Warburton for the indefatigable way in which he had organised the sports, and the other officers of the A.V.C., for their hearty co-operation.

Captain Warburton briefly replied, and thanked Mrs. Brittlebank for so kindly coming to present the prizes to the winners. They were extremely honoured by her presence. He also desired to thank the Committee who had so industriously co-operated with him in the arrangements.

Major Brittlebank briefly replied on behalf of his wife, and thanked Mr. Berry for the services rendered by the Skelmersdale Old Prize Band.—*The Ormskirk Advertiser.*

Epsom Salts for ailing Stock.

The following reply to Mr. Davis's question occurs in *The North British Agriculturist*:—

"We thoroughly endorse Mr. Davis's remarks. We have met with numerous cases, where we could only account for the death of the animals by overdosing with coloured or uncoloured Epsom salts. One dose on top of another acts as poison, and induces paralysis of the walls of the stomach compartments, when all the other organs of the body become inert, followed by the loss of the patient. Both Epsom salts and Glauber salts have their usefulness when judiciously handled, but we are sorry to state that, like the bleeding of old, they are very much abused, and have become very dangerous in the hands of people who do not understand their chemical composition or their medical action. When one dose has been administered, do not be in too big a hurry in giving a second one. When a cow is noticed to have some slight torpidity of the bowels, it is a common practice to put in one dose of salts after another, the owner at the time remarking that the cow has a stoppage, and must have something strong to shift it, handling, as it were, the organic body of the animal in the same manner as one of their farm machines made of wood and iron. Such treatment as this, we are sorry to say, is an almost everyday occurrence in a country practice.—VET. ED."

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Out-breaks (a)	Animals.	Out-breaks (a)	Animals.	Out-breaks (b)	Animals.	Out-breaks (b)	Animals.	(b)	Out-breaks (a)	Slaughtered.*
GT. BRITAIN. Week ended Sept. 16	7	8					16	29	4	51	23
Corresponding week in 1915 ...	3	3					18	34	1	43	99
Corresponding week in 1914 ...	10	12			1	1				103	470
Corresponding week in 1913 ...	12	14			3	3	17	25	1	46	543
Total for 38 weeks, 1916	393	464	1	24	36	89	1767	3943	189	3476	8739
Corresponding period in 1915 ...	436	497			38	68	‡623	‡1345	161	3136	13802
Corresponding period in 1914 ...	548	600	22	108	79	252	1526	2638	155	3063	30470
Corresponding period in 1913 ...	402	444			121	298	1976	3958	133	1836	24377

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—
Board of Agriculture and Fisheries, Sept. 19, 1916 Excluding outbreaks in army horses.

IRELAND. Week ended Sept. 16	...	...	...	...	...	...	Outbreaks ...	8	11	74
Corresponding Week in 1915 ...	...	...	...	...	...	...	1	2	5	25
Corresponding Week in 1914 ...	...	...	...	...	...	...	2	3	1	5
Corresponding Week in 1913 ...	...	...	...	...	...	...	...	7	...	...
Total for 38 weeks, 1916 ...	3	7	...	...	...	...	54	310	245	1531
Corresponding period in 1915 ...	1	1	...	...	1	3	57	307	191	1062
Corresponding period in 1914 ...	1	1	76	957	...	...	67	400	161	841
Corresponding period in 1913 ...	...	...	...	...	...	...	102	390	113	693

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sep. 18, 1916

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection